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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/749,636	12/28/2000	Yoshinobu Suehiro	P 275747 TYGUS001	6023

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EXAMINER

KEANEY, ELIZABETH MARIE

ART UNIT

PAPER NUMBER

2882

DATE MAILED: 07/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/749,636

Applicant(s)

SUEHIRO ET AL.

Examiner

Elizabeth Gemmell

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21, 29 and 30 is/are pending in the application.
- 4a) Of the above claim(s) 23-27 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-21 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4-8, 29 and 30 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 April 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 11.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Receipt is acknowledged of amendments, IDS, priority papers and corrected drawings filled 16 April 2003.

Election/Restrictions

Newly submitted claim 23-28 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: the metal plate of the LED does not have to be formed from a metal plate to form a reflective element, it can be formed by plating.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 23-28 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,4-7,22 and 29 remain rejected under 35 U.S.C. 102(b) as being anticipated by Suehiro et al. (US Patent 5,623,181; hereinafter Suehiro).

Re claims 1,5-7 and 22: Suehiro discloses, in figure 3 and throughout the disclosure, a light-emitting diode comprising:

- A light-emitting element (111);
- A lead assembly for supplying electrical power to the light-emitting element (122a,b);
- A reflection mirror provided in an opposing relation to the light-emitting surface of the light-emitting element (114), wherein the reflection mirror is a metal mirror (column 5, lines 9+);
- A light-transmissible material for sealing the light-emitting element, a part of the lead assembly and the reflection mirror (113);
- A radiation surface for radiating light reflected on the reflection mirror to the outside (115), wherein the radiation surface is formed on the light-transmissible material at its surface at the rear of the light-emitting element;

The Examiner notes the claim limitation "metal mirror is obtained by processing...said metal plate" is drawn to a process of manufacturing which is incidental to the claimed apparatus. It is well established that a claimed apparatus cannot be distinguished over the prior art by a process limitation. Consequently, absent of showing an unobvious difference between the claimed product and the prior art, the

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subject product-by-process claim limitation is not afforded patentable weight (see MPEP 2113).

Re claim 4: Suehiro discloses, in figure 17 and throughout the disclosure, the light-transmissible material is essentially shaped like a square when viewed from the side of the radiation surface and the lead assembly is led to the outside from the base of the light-transmissible material close to a corner of the square.

Regarding claim 5: The applicants disclose the metal plate to be a metal plate formed by either a plurality of metal portions or by metal-surface-treating the concave surface of a metal mirror. The examiner has chosen to examine this claim by choosing the metal plate to be made by metal-surface-treating the concave surface of the metal mirror. Since the limitation "metal-surface-treating the concave surface of the metal mirror" is drawn to a process of manufacturing and is therefore incidental to the claimed apparatus, Suehiro discloses a metal mirror and therefore reads on the claim.

Re claim 7: Suehiro discloses, in figure 2 and throughout the disclosure, a case for containing the light-emitting element, a part of the lead assembly, and the reflection mirror (130).

Re claim 29: Suehiro discloses the use of aluminum as the reflector material, therefore it has a linear reflectance of 65% or higher (column 5, lines 26+).

Claim 30 is rejected under 35 U.S.C. 102(b) as being anticipated by Kano.

Kano discloses a light emitting diode comprising:

- A light emitting element (7,8)
- Power connectors to provide power to the light emitting element (3,5); and
- A fluorescent material, which converts a light emitted from the light-emitting element to a light of a different frequency (2).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suehiro in view of Kano et al. (US Patent 3,875,456; hereinafter Kano).

Suehiro shows all the limitations as shown above.

However, Suehiro fails to disclose a hole formed through the reflection mirror.

Kano discloses a hole in the reflection mirror for the lead lines of the light-emitting device.

One of ordinary skill in the art at the time the invention was made would have been motivated to combine the light-emitting device disclosed by Suehiro with that of

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Kano because the placement of holes for the lead lines is absent of showing criticality and one of ordinary skill in the art would recognize the placement of the lead lines would not alter the function of the reflection surface and the reflection surface would still reflect the light emitted from the light-emitting diode.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suehiro in view of Fields et al. (US Patent 5,281,889; hereinafter Fields).

Suehiro shows all the limitations as shown above.

However, Suehiro fails to disclose the reflecting mirror being made of ceramic.

Fields discloses using ceramic as a reflecting material (column 5, lines 21+).

One of ordinary skill in the art at the time the invention was made would have been motivated to combine the light-emitting device of Suehiro with that of Fields because one of ordinary skill in the art would recognize that ceramic is a well known functional equivalent for metal as a reflection surface because the substitution of ceramic for the metal reflection surface would not alter the function of the reflection surface and it would still reflect the light emitted from the light-emitting diode.

Response to Arguments

Applicant's arguments filed 16 April 2003 have been fully considered but they are not persuasive. The addition of the limitation processing a metal plate to give it a concave shape is a process by manufacturing limitation, which is incidental to the claimed apparatus and therefore Suehiro still reads upon the claimed invention.

Allowable Subject Matter

Claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 9-21 are allowable over the prior art.

The following is a statement of reasons for the indication of allowable subject matter: As set forth in prior Office Action, paper number 9.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the


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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth Gemmell whose telephone number is (703) 305-1937. The examiner can normally be reached on Monday-Thursday 6:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (703) 308-4858. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


emg
June 30, 2003


EDWARD J. GLICK
Supervisor
EXAMINER
TECHNOLOGY CENTER 2800